

## GAS SYSTEMS AND METHODS FOR ENABLING RESPIRATORY STABILITY

### ABSTRACT OF THE DISCLOSURE

Minimal concentrations of CO<sub>2</sub> are mixed with pressurized air to provide a gas  
5 mix effective for stabilizing breathing of target patients or users. CO<sub>2</sub> concentrations  
below about 2% and preferably between about .5% and 1.25% are employed. A gas  
modulator includes a gas mixing module, a sensor and a control processor. The gas  
mixing module mixes plural gases, including CO<sub>2</sub>, into a gas mix, for delivery to a  
substantially leak-proof patient face mask. The sensor, located substantially at the face  
10 mask, measures CO<sub>2</sub> concentration in the face mask. The control processor, based on a  
signal from the sensor, controls the CO<sub>2</sub> concentration in the gas mix.